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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,381	07/06/2003	Werner Hakenjos	(H)02HAK0459USP	7422

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M. Robert Kestenbaum
11011 Bermuda Dunes NE
Albuquerque, NM 87111

EXAMINER	
TALBOT, MICHAEL	
ART UNIT	PAPER NUMBER
3722	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/614,381	HAKENJOS, WERNER	
	Examiner	Art Unit	
	Michael W. Talbot	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4 and 6-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4 and 6-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 October 2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,3,4,6 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Maier '389. Maier '389 shows in Figures 1-5 a drilling tool made of high strength steel comprising a shank (1) with a first end (non-flute side) and a second end having a drill head (4) with flutes (20) and a centering cone (16). Maier '389 shows the drill head and centering cone each having at least three lips (5,6,7) and main cutting edges (10,12,13,14) being partially relief-ground wherein the centering cone projects from an area that is described by the main cutting edges by rotation of the drilling tool about its shank axis. Maier '389 shows the area that is described by the cutting edges comprises a plane area (for example the area described by a line along the center cutting edge 14) thus enabling the centering cone to be projected from the plane (col. 5, lines 40-46). Maier '389 shows the centering cone having a smaller point angle than the main cutting edges (Figure 7). Maier '389 shows the shaft having at least one step (2) in the feed direction. Maier '389 shows the flanks (18,19) of the main cutting edges having a

convexly shaped region in such a way that the drill works free of canting up to 10° to the normal of a work piece surface to be spot-drilled. Maier '389 shows the flanks of the secondary cutting edges (26) being relief-ground.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier '389 in view of Melin '267. Maier '389 lacks a clamping surface on the shank and a drilling tool with dual-sided drilling heads. Melin '267 shows in Figures 3 and 5 a clamping surface (11) on the shank of drilling tool (12) and dual-sided drilling head with different diameters (co. 2, lines 3-17). In view of this teaching of Melin '267, it would have been obvious to modify the drilling tool of Maier '389 to include a clamping surface and dual-sided drilling heads shown in Moon '563 to enhance the clamping forces between the clamp means and the drilling tool to create a stronger connection and to include a reversible drilling tool which extends the life of the drilling tool and, with different diameters, has increase versatility.

6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier '389 in view of Nuzzi et al. '681. Maier '389 lacks reference to a coating applied to the drilling tool for mechanical resistance and anti-corrosion. Nuzzi et al. '681 shows in Figure 1 a drilling tool (10) being made of HSS and coated with TiN, TiCN or TiAlN. In view of this teaching of Nuzzi et al. '681, it would have been obvious to add a coating disclosed in Nuzzi et al. '681 to the drilling tool of Maier '389 to provide a wear resistance coated surface which ultimately extends the life of the drilling tool by reducing friction and heat generation during cutting.

7. Claims 1,3,4,6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman '967 in view of Maier '389. Hageman '967 shows in Figures 1-4 a drilling tool made of hardened steel comprising a shank (12) with a first end (14) and a second end (16) having a drill head with flutes and a centering cone (38). Hageman '967 shows the drill head and centering cone each having two lips (40,42) and main cutting edges (26,28,44,46) being partially relief-ground wherein the centering cone projects from an area that is described by the main cutting edges by rotation of the drilling tool about its shank axis. Hageman '967 shows the area that is described by the cutting edges comprises a plane area (for example the area described by a line along the center cutting edge 46) thus enabling the centering cone to be projected from the plane.

Hageman '967 lacks at least three main cutting edges and at least three cutting edges on the centering cone. Maier '389 shows in Figures 1-5 a drilling tool with flutes (20) and a centering cone (16). Maier '389 shows the drill head and centering cone each having at least three lips (5,6,7) and main cutting edges (10,12,13,14) being partially relief-ground and having a smaller point angle than the main cutting edges (Figure 7). Maier '389 shows the flanks (18,19) of the main cutting edges having a convexly shaped region in such a way that the drill works free of canting up to 10° to the normal of a work piece surface to be spot-drilled. Maier '389 shows the flanks of the secondary cutting edges (26) being relief-ground. In view of this teaching of Maier '389, it would have been obvious to modify the drilling tool of Hageman '967 to include a third main cutting edge and three cutting edges on the centering cone as shown in Maier '389 to redistribute the cutting forces over a greater area (3 edges in lieu of two) to reduce the wear and ultimately increase the life of the drilling tool.

8. Claims 7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman '967 in view of Maier '389, further in view of Melin '267. Hageman '967 in view of

Maier '389 lacks a clamping surface on the shank and a drilling tool with dual-sided drilling heads. Melin '267 shows in Figures 3 and 5 a clamping surface (11) on the shank of drilling tool (12) and dual-sided drilling head with different diameters (col. 2, lines 3-17). In view of this teaching of Melin '267, it would have been obvious to modify the drilling tool of Hageman '967 in view of Maier '389 to include a clamping surface and dual-sided drilling heads shown in Moon '563 to enhance the clamping forces between the clamp means and the drilling tool to create a stronger connection and to include a reversible drilling tool which extends the life of the drilling tool and, with different diameters, has increase versatility.

9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman '967 in view of Maier '389, further in view of Nuzzi et al. '681. Hageman '967 in view of Maier '389 lacks reference to a coating applied to the drilling tool for mechanical resistance and anti-corrosion. Nuzzi et al. '681 shows in Figure 1 a drilling tool (10) being made of HSS and coated with TiN, TiCN or TiAlN. In view of this teaching of Nuzzi et al. '681, it would have been obvious to add a coating disclosed in Nuzzi et al. '681 to the drilling tool of Hageman '967 in view of Maier '389 to provide a wear resistance coated surface which ultimately extends the life of the drilling tool by reducing friction and heat generation during cutting.

Response to Arguments

10. Applicant's arguments filed 24 October 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a plane area described by rotating the main cutting edges about the shank axis can only be obtained if the main cutting edges extend along a line substantially vertically to the shank axis" as seen in Applicant's Remarks on page 5, 2nd full paragraph) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, per Applicant's Remarks on page 5, 1st full paragraph, "Rather, at least a part of the area obtained by rotating the cutting edges must be planar" and "The latter requires a line along the main cutting edges, but not a single point to be rotated about the axis". Maier '389 clearly shows the area that is described by the cutting edges comprises a plane area (for example the area described by a line along the center cutting edge 14) thus enabling the centering cone to be projected from the plane (col. 5, lines 40-46). Also, Hageman '967 shows the area that is described by the cutting edges comprises a plane area (for example the area described by a line along the center cutting edge 46) thus enabling the centering cone to be projected from the plane.

Conclusion

11. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mrs. Monica S. Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filling papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MWT
Examiner
23 January 2007

Monica S. Carter
MONICA CARTER
SUPERVISORY PATENT EXAMINER